Harnessing the healing power of creativity: exploring the role of art in healthcare through art, dance, and music therapy

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ABSTRACT

Art therapy, dance therapy, and music therapy have emerged as complementary and integrative approaches to healthcare, providing powerful avenues for healing, growth, and self-discovery. This narrative review explores the multifaceted role of these therapeutic interventions, examining their mechanisms, applications, and evidence-based benefits in promoting health and well-being across diverse populations and clinical settings. Music therapy has been shown to have a range of applications in healthcare, particularly in improving the general ambience of hospital settings. Dance therapy, also known as dance/movement therapy (DMT), harnesses the therapeutic power of movement to improve physical, emotional, cognitive, and social needs. Integrating art therapy into healthcare settings supports patient healing and well-being and enhances the working environment for healthcare providers. These new integrative approaches in healthcare settings offer benefits such as enjoyment, satisfaction, improvements in health and wellbeing, social connections, and relaxation for participants.

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Introduction

The integration of art, music, and dance in healthcare settings has been shown to benefit patient care and well-being. Artwork, particularly nature-based and calming pieces, can create a healing environment, reduce stress, and improve mood.[1] Similarly, music has positively impacted patient outcomes, including reducing stress, improving mood, and enhancing communication between staff and patients.[2] The use of music in healthcare has expanded to include a variety of initiatives, such as music therapy and the use of professional and community musicians.[3] Furthermore, the impact of music on patient satisfaction and healthcare provision has been highlighted.[4] Integrating these creative elements in healthcare settings can significantly contribute to patient well-being and healing.

This narrative review explores the multifaceted role of these therapeutic interventions, examining their mechanisms, applications, and evidence-based benefits in promoting health and well-being across diverse populations and clinical settings.

Music therapy: harmonising mind, body, and soul

Music has been revered throughout history for its ability to evoke emotions, soothe the soul, and transcend cultural boundaries. In recent decades, the therapeutic potential of music has gained recognition within healthcare settings, leading to the emergence of music therapy as a distinct profession.[3] Music therapy encompasses a range of interventions that utilise music to achieve therapeutic goals, guided by trained and credentialed music therapists. From hospitals and rehabilitation centres to schools and community settings, music therapy offers a versatile and inclusive healing approach that celebrates the human spirit's inherent creativity and resilience.

Music therapy has been shown to have a range of applica-

tions in healthcare, particularly in improving the general ambience of hospital settings.[5] It has been integrated into various healthcare systems, including psychiatric hospitals, schools, mental health centres, and substance abuse treatment programs, where it effectively reduces muscle tension and anxiety, promotes relaxation, and enhances social, affective, cognitive, and behavioural functioning.[6] In the psychiatric setting, music therapy has been used to elicit emotion and affect behaviour change and can be included in group sessions to evoke thoughts, feelings, and memories for patients.[7]

Mechanisms of music therapy

The therapeutic effects of music therapy are multifaceted, rooted in its ability to engage multiple neural pathways and physiological systems. These effects can be subdivided into physiological, physical, and social.

Physiological benefits: Music therapy has been associated with increased happiness and relief by enhancing blood flow to the "joy response" part of the brain, potentially reducing stress and tension.[4] Studies have shown that music interventions can aid recovery by reducing postoperative pain in children and improving memory and attention in stroke patients through stimulation of brain areas and neural networks.[4] Live music at the bedside has been reported to make patients more at ease and positively impact their physiology, such as lowering blood pressure and stress levels.[8] Music therapy operates through several neurophysiological and psychological mechanisms to alleviate postoperative pain. The most prevalent theories explaining its efficacy include distraction and gate control theories. The distraction theory posits that music serves as a cognitive distraction, diverting attention away from pain and thus reducing its perception.[9] Meanwhile, the gate control theory suggests that non-painful stimuli, such as music, can close the neural "gates" that allow pain signals to pass through to the brain, thereby reducing the sensation of pain. Music's rhythmic and melodic elements can influence the limbic system, which is responsible for emotional processing, and can lead to the release of endorphins, the body's natural painkillers.[9] Music's impact on the autonomic nervous system can also result in physiological responses such as reduced heart rate and muscle tension, which further contribute to pain reduction.[9]

Physical benefits: Music therapy has been linked to improved pain management, evidenced by staff perceptions of music as a pain management strategy and the belief that music relieves pain and stabilises heart rates of premature infants.[2] The data have also highlighted that music listening can lead to lower pain and nausea scores in patients undergoing haemodialysis and positively impact depression scores, such as reducing depression in post-mastectomy patients and chronic pain management.[10]

Social benefits: Live music and music vigils in healthcare settings have been associated with higher patient satisfaction, improved patient experiences during the dying process, and positive comments and feedback from staff towards music as a pain management strategy.[2] Live music at the bedside has been reported to result in staff feeling less tense, more relaxed, happier, and more energetic, indicating positive social outcomes of music in healthcare settings.[2] Data clearly shows that music therapy offers a range of benefits in healthcare, impacting patients physiologically, physically, and socially and positively influencing staff well-being and patient experiences.If we look at physiology, neurologically, music stimulates various brain regions involved in emotion, memory, and reward, eliciting complex physiological and psychological responses.[11] Music can synchronize neural oscillations through rhythmic entrainment, promoting relaxation, arousal regulation, and emotional modulation. Moreover, music activates the brain's reward system, releasing neurotransmitters such as dopamine and endorphins, which contribute to feelings of pleasure and well-being.[11] Psychologically, music serves as a means of self-expression, narrative construction, and emotional processing, enabling individuals to articulate and explore their inner experiences through lyrics, melody, and rhythm. Additionally, music facilitates social connection and cohesion, fostering interpersonal relationships, empathy, and communication skills. By tapping into the intrinsic power of music, music therapy offers a holistic approach to healing that integrates mind, body, and spirit.

Applications of music therapy

Music therapy is widely applied in healthcare settings to address various physical, emotional, cognitive, and social needs. In clinical settings, it is used to alleviate symptoms of anxiety, depression, and pain, providing a non-invasive alternative to pharmacological interventions. Personalised playlists and active music-making experiences are tailored to individual preferences and treatment goals.[12,13]

In palliative and end-of-life care, music therapy offers comfort and dignity to individuals with life-limiting illnesses.[13] In rehabilitation settings, it supports physical rehabilitation goals, such as improving motor skills, coordination, and gait training, especially for those recovering from stroke or traumatic brain injury.[14] Music therapy is also effective in mental health settings, enhancing coping skills, emotional regulation, and self-esteem.[14] Furthermore, music therapy is applied in various forms to support patients through their surgical and postoperative experiences. Active music therapy involves patients engaging in music-making activities under the guidance of a certified music therapist. In contrast, receptive music therapy involves patients listening to pre-recorded or live music. Both forms are used to promote relaxation, reduce anxiety, and manage pain. In the postoperative context, patients might be provided with headphones and a music playlist tailored to their preferences to help manage pain after orthopaedic surgery. This intervention is non-invasive, easy to administer, and cost-effective, making it an attractive adjunct to traditional pain management strategies.[9] For instance, music therapy has been integrated into patient care in children affected by tumours to enhance pain management. Patients were more compliant with treatments, starting from the acceptance to enter the operating room with less fear and being much more at ease.[15]

Beyond clinical settings, it is integrated into educational programs, community-based initiatives, and public health interventions, promoting wellness and social inclusion across various populations.[16]

Evidence-based benefits of music therapy

The evidence base for music therapy is growing, with studies showing its effectiveness in treating chronic pain, migraines, and tinnitus.[17] Music therapy has been found to have a range of psychological effects, including relaxation, attention stimulation, and emotional equilibration,[18] with positive effects on physical, emotional, cognitive, and social outcomes. Its flexibility and acceptability make it a valuable approach in healthcare.[19]

Numerous studies have documented the benefits of music

therapy in reducing anxiety and pain, especially for individuals undergoing medical procedures or experiencing chronic pain. For instance, a review by Bradt *et al*.[20] found that music therapy significantly reduces anxiety and pain levels in medical settings, improving patient outcomes and overall well-being. Additionally, Pelletier[21] demonstrated that music therapy helps reduce pain perception and emotional distress in chronic pain conditions, highlighting its efficacy as a non-pharmacological intervention.

A systematic review and meta-analysis of the effects of music therapy on postoperative pain in orthopaedic patients found significant reductions in pain scores and anxiety levels among those who participated in music therapy compared to control groups.[22] Furthermore, randomized controlled trials have demonstrated that patients who receive music therapy require less analgesic medication and report higher satisfaction with their pain management.[23]

A study on orthopaedic surgery patients showed that those who listened to music reported significantly lower pain scores and greater control over their pain.[9] These findings underscore the potential of music therapy as a valuable component of multimodal pain management strategies in postoperative care.

Moreover, music therapy has been shown to enhance mood, decrease depressive symptoms, and improve the quality of life in mental health populations. A study by Silverman[24] indicated that music therapy can effectively reduce depressive symptoms and improve mood in patients with mental health disorders such as depression and schizophrenia. The cognitive benefits are also notable, with research showing improvements in attention, memory, and executive function, particularly in older adults with dementia or cognitive impairments. For example, data shows that music therapy could improve cognitive functioning and social engagement in dementia patients.[25]

Regarding social benefits, music therapy promotes social engagement and emotional expression, fostering a sense of belonging among individuals with developmental disabilities, autism spectrum disorders, or those experiencing social isolation. Furthermore, Geretsegger *et al*. have highlighted the positive impact of music therapy on social skills and emotional expression in individuals with autism.[26]

While further research is needed to understand the underlying mechanisms and optimize treatment protocols fully, the current evidence underscores the value of music therapy as a complementary and integrative approach to healthcare, enhancing well-being across various populations and settings.

Art therapy

Art has long been a part of human history, serving as a "portal" for expression, communication, and healing. In contemporary healthcare, the integration of art has emerged as a significant tool for improving patient outcomes and enhancing the work environment for healthcare professionals.

Mechanisms of art therapy

Art therapy operates through various mechanisms that contribute to its therapeutic effects. One primary mechanism is providing a non-verbal outlet for expression, enabling individuals to communicate complex emotions and experiences that might be difficult to articulate verbally. This aspect is particularly beneficial for patients dealing with trauma, chronic illnesses, or cognitive impairments.[2,27] Additionally, engaging in artistic activities stimulates neural pathways associated with pleasure and reward, enhancing mood and reducing stress.[28] Art therapy also promotes mindfulness and presence, helping individuals focus on the moment, which can alleviate symptoms of anxiety and depression.[29,30] These mechanisms collectively contribute to patients' holistic well-being, making art therapy a valuable adjunct to traditional medical treatments.

Application of art therapy

Art therapy is applied in various healthcare settings, each tailored to meet specific needs. Art installations and interactive projects in hospitals can transform sterile environments into more welcoming spaces, reducing patient anxiety and stress.[2,31] Visual arts and creative writing workshops offer cancer patients a platform to express their journey, providing emotional support and fostering community.[30] Art therapy helps individuals explore and process their emotions in mental health settings, aiding in recovery and emotional resilience.[2,30]

Evidence-based benefits of art therapy

The benefits of art therapy in healthcare are well-documented and supported by a growing body of evidence. Studies have shown that art therapy can significantly improve psychological and physiological outcomes. Participation in art therapy has been linked to reduced levels of stress, anxiety, and depression and improvements in overall mood and well-being.[31] For instance, a systematic review highlighted that art therapy interventions significantly alleviate burnout and psychosocial distress among healthcare workers, improving their emotional state and quality of life.[27] Another ongoing review is investigating the positive impact of active visual art therapy on health outcomes, including reductions in anxiety, depression, and treatment-related stress.[28]

Further evidence from studies reveals that art therapy can enhance patient-provider communication, fostering stronger therapeutic relationships and improving overall care delivery.[31] Furthermore, art therapy can be particularly effective for young people, helping them navigate emotional distress and enhance mental health through creative expression.[32]

In palliative care, art therapy has been found to support both patients and healthcare providers. It helps manage end-of-life care's emotional and psychological challenges by providing a safe space for expressing difficult emotions and fostering a deeper understanding of the patient's experience.[30] Additionally, the integration of art in palliative care training programs has improved empathy, communication skills, and overall emotional resilience among healthcare professionals.

The integration of art into healthcare settings not only supports patient healing and well-being but also enhances the working environment for healthcare providers. By addressing both emotional and cognitive aspects of health, art therapy offers a holistic approach that is increasingly recognized and valued in the modern healthcare system to promote wellness and improve healthcare outcomes.

Dance therapy in health care

Dance therapy, also known as dance/movement therapy (DMT), harnesses the therapeutic power of movement to improve physical, emotional, and cognitive well-being. These ben-

efits are particularly important in chronic illnesses and rehabilitation, where DMT can enhance physical recovery and psychological resilience.

Mechanisms of dance therapy

DMT integrates a person's physical, emotional, and cognitive well-being. It operates on the principle of mind-body integration, recognizing that bodily movement can influence psychological states and vice versa. According to Brooks and Stark,[33] DMT can help patients experience, identify, and express feelings and conflicts through movement, making it an effective therapeutic tool for enhancing emotional regulation and expression.

The mechanisms of DMT are rooted in its ability to facilitate non-verbal communication and self-expression. Movement serves as a vehicle for the interaction and sharing of powerful emotions. Sandel, [34] already in 1983, emphasizes that one of the treatment goals of DMT in a psychiatric setting is to help patients express their feelings in appropriate and channelled ways, thus preventing emotional withdrawal and isolation. This is achieved through various techniques, such as mirroring, where the therapist replicates the client's movements to build empathy and understanding, and improvisation, which allows patients to explore and express their emotions freely.

Application of dance therapy

Dance therapy is applied across various healthcare settings, from psychiatric hospitals to rehabilitation centres and acute care hospitals. In psychiatric settings, DMT is used to assist patients in connecting with their emotions and improving their affective states. As observed by Bungay *et al*.,[35] the Dance for Health program in acute hospital settings has shown that DMT can challenge staff assumptions about older patients' physical and emotional capacities, fostering better staff-patient relationships and enhancing the hospital environment.

In acute care, DMT sessions are designed to be flexible and patient-centred, often involving music and movement activities led by the participants' preferences and capabilities. These sessions can range from gentle warm-ups to more active movements, allowing patients to engage comfortably. This approach promotes physical activity and encourages social interaction and self-expression, contributing to a more holistic care environment.[35] Another study[36] highlighted the role of dance therapy in assessing and treating medically ill children.

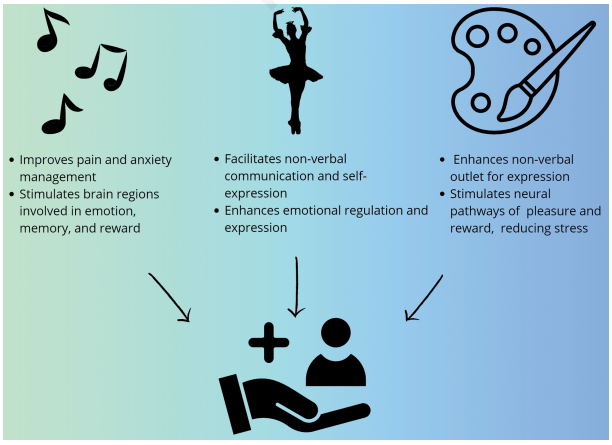

Figure 1. Main mechanisms implicated in art, dance and music therapy.

Evidence-based benefits of dance therapy

The benefits of dance therapy are well-documented in the literature. Research indicates that DMT can significantly improve emotional states, reducing symptoms of anxiety, depression, and hostility. Brooks and Stark[33] conducted a pilot study using the Multiple Affect Adjective Checklist (MAACL) to measure affective changes pre- and post-DMT sessions, finding significant improvements in depression and anxiety among participants. Further evidence from the Dance for Health program supports these findings, highlighting that DMT can improve mood, enhance social relationships, and increase physical activity among older adults in acute hospital settings. Bungay *et al*.[35] revealed that staff observed positive changes in patients' emotional well-being and physical engagement during the DMT sessions. These sessions also provided staff with personal satisfaction and reduced job-related stress, contributing to a positive work environment.

A recent meta-analysis concluded that DMT interventions significantly improved quality of life, emotional expression, and social functioning. These benefits are attributed to the unique combination of physical activity, artistic expression, and therapeutic interaction inherent in DMT.[37]

In summary, dance therapy in healthcare settings offers benefits such as enjoyment, satisfaction, improvements in health and well-being, social connections, and relaxation for participants.

Conclusions: cultivating creativity, fostering healing

In conclusion, art therapy, dance therapy, and music therapy are vibrant and inclusive approaches in healthcare, offering powerful avenues for healing, growth, and self-discovery through different specific pathways (Figure 1). These therapies use the healing power of creativity to help individuals explore and express themselves, reclaiming control over their stories and identities. As they become more recognized and integrated into healthcare systems, they promise to improve the quality of care and enhance people's lives at all stages of life. By combining art and healthcare, we create a rich tapestry of healing where creativity fosters resilience, connection, and well-being.

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